

# CONSTRUCTION: JOINING OF PIPES BY WELDING

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Issued: 7-7-2019 Revised: \_\_\_\_\_ Number: 6AH65 Page: \_\_\_\_\_

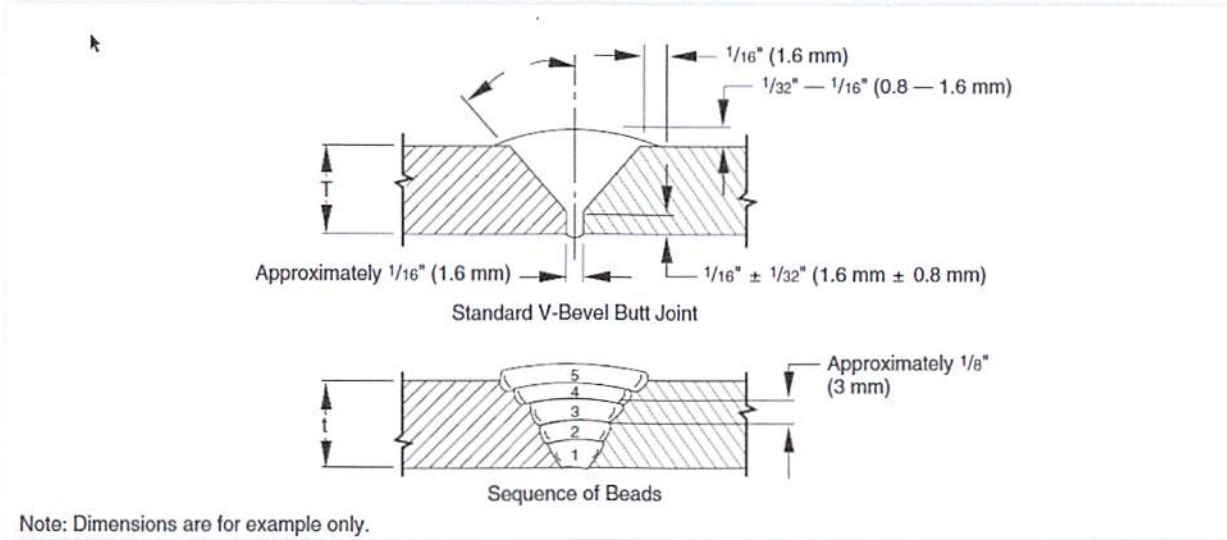
## STANDARD WELDING PROCEDURE SPECIFICATION #\_6AH65

- A. Process: Manual Electric Arc
- B. Material: API-5L Grade X65
- C. Diameter and Wall Thickness: OVER 12 IN. and  $>.188$ —THRU  $.750$  WT
- D. Joint Design: Standard Vee Groove 30 degrees
- E. Filler Metal and Number of Beads: Electrode Classification  
Electrode E6010 and E8010 AWS Class A 5.1-A 5.5 Minimum of 4 Passes
- F. Electrical or Flame Characteristics: D.C. Reverse Polarity, Electrode Positive
- G. Position: Fixed Horizontal
- H. Direction of Welding: Vertical Down
- I. Number of Welders: 1
- J. Time Lapse Between Passes: Maximum of 5 minutes between stringer and hot pass; 3 minutes maximum when temperature is below 35° F.
- K. Type of Line-Up Clamp: External
- L. Removal of Line-Up Clamp: After 50% completion of stringer bead
- M. Cleaning: Taper grind starts and craters and flatten crown by grinding stringer bead, power buff all remaining passes.
- N. Speed of Travel: Stringer bead 9--12 inches per minute maximum.
- O. \*Preheat, Stress Relief: Maximum of 300°F. Minimum of 150°F. Preheating shall be done with device or equipment which will heat entire circumference(s) in single application 2" back from pipe ends.
- P. Notes: Welded pipe strings shall be temporarily capped to prevent air draft cooling of stringer beads. Weld shall be completely protected from moisture until it has cooled to ambient temperature. Weld zone shall be protected so that the wind velocity near it does not exceed 8 miles per hour.

\*X-Rated pipe must be stress relief if the carbon content exceeds .032% or C+1/4 Mn exceeds .065%. Heating of X-Rated pipe is limited to 600°F.

Number: \_\_\_\_\_ Page: \_\_\_\_\_

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Bead No.	Electrode Diameter	Amperage Range	Voltage Range	Type Rod	Notes
1	5/32	130-170	25-32	5P+	
2	3/16	130-190	26-36	70+	See Below
3	3/16	135-195	25-35	70+	
4	3/16	135-195	25-35	70+	
5	3/16	125-180	25-35	70+	

Bead No.	Notes
1-5	Electrodes may be substituted within Rod group AWS A5.1—A5.5
2	Hot Pass may be made using 5/32 within same Amperage Range
4	Additional passes may be made at same settings

# WELD TEST REPORT

(USE SEPARATE FORM FOR EACH WELDING PROCEDURE)

DATE <b>8-7-19</b>		WELDER'S NAME <b>Chris Edps</b>			SOCIAL SECURITY NUMBER <b>_____</b>		
LOCATION <b>Sumner</b>		NAME OF CONTRACTOR OR COMPANY <b>WTO</b>		RIGHT HANDED <input checked="" type="checkbox"/>	REQUALIFYING TEST <input checked="" type="checkbox"/>		
POSITION INCLINED <input type="checkbox"/> FIXED <input checked="" type="checkbox"/> HORIZONTAL <input checked="" type="checkbox"/>		ELECTRIC ARC <input checked="" type="checkbox"/> INDOORS <input type="checkbox"/> OX-ACETYLENE <input type="checkbox"/> OUTDOORS		WEATHER <b>CL</b>	TEMPERATURE <b>95°</b>	TIME OF DAY <b>Mid</b>	WIND BREAK/USED <b>N/A</b>
PIPE SPECIFICATION <b>API 5L X 65</b>		PIPE MANUFACTURER <b>IPACO</b>		WALL THICKNESS <b>1.500</b>		DIAMETER (OD) <b>20</b>	WEIGHT PER FOOT <b>104</b>
MAKE OF WELDING MACHINE <b>Lin</b>		SIZE <b>200</b>	MAKE OF OX-ACETYLENE APPARATUS <b>N/A</b>	WELDING NOZZLE SIZE <b>N/A</b>		OX-ACETYLENE PRESSURE FLOWING <b>N/A</b>	
BRAND OF ELECTRODE <b>Lin</b>		BRAND OF OX-ACETYLENE ROD AND SIZE <b>N/A</b>		NUMBER OF PASSES - OX-ACETYLENE WELD <b>N/A</b>		WELDING PROCEDURE NO. <b>GAH 65</b>	

PIPE WELD	ELECTRODE TYPE AND SIZE	MACHINE SETTINGS		AMPERAGE RG.	VOLTAGE RG.	
		COARSE	FINE			
STRINGER	Lin 5PT 5/32	160-240	55	130-170	25-32	Qualifying Test for GAH65 Visual API Good
HOT PASS	Lin 70+ 3/16	160-240	80	130-190	26-36	
FILLER (S)	Lin 70+ 3/16	160-240	70	135-195	25-35	
CAP PASS	Lin 70+ 3/16	160-240	70	125-180	25-35	

TENSILE TESTS	COUPON			CROSS SEC. AREA SQ. IN.	LOAD	% ELONG.	COMPUTED TENSIL PSI	REMARKS	AC-CEPTED	RE-JECTED
	LOCATION	LENGTH	WIDTH							
1	TA	9"	1"	.50	39,000	15%	78,000	No defects	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	BA	S	S	S	S	S	S	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	TB	S	S	S	S	S	S	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	BB	S	S	S	S	S	S	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>

BEND TESTS	COUPON LOCATION	TYPE OF BEND	REMARKS	AC-CEPTED	RE-JECTED
	1	AB Root AT face	No defects		<input checked="" type="checkbox"/>
2	AB Root AT face	Small Hydrogen No defect		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	BB Root BT face	No defects		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	BB Root BT face	No defects		<input checked="" type="checkbox"/>	<input type="checkbox"/>

NICK-BREAK TESTS	COUPON LOCATION	REMARKS	AC-CEPTED	RE-JECTED
	1	TA	No defect	<input checked="" type="checkbox"/>
2	TB	Small slag 1/64	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	BA	No defect	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	BB	Small Hydrogen Pickup	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SIZE AND WALL THICKNESS OF MAIN		GAS PRESSURE ON MAIN PSIG		LOCATION OF FRACTURE WELD <input type="checkbox"/> NIPPLE <input type="checkbox"/> MAIN <input type="checkbox"/>		
DID WELD CONTAIN: PINHOLES		COLDROLL	UNDERCUT	DEPTH OF UNDERCUT		LENGTH OF UNDERCUT
REMARKS ON TEE WELD						

PIPE WELD	QUALIFIED <input checked="" type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input checked="" type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>	TEE WELD	QUALIFIED <input type="checkbox"/> NOT QUALIFIED <input type="checkbox"/>	ELECTRIC ARC <input type="checkbox"/> OX-ACETYLENE <input type="checkbox"/>
TESTED BY	SIGNATURE <i>David [Signature]</i>		TITLE	<i>Ins</i>	